

**EVALUATION OF THE THREE COMMERCIALY AVAILABLE
ELISA TEST KITS FOR THE DETECTION OF ANTI-HIV
ANTIBODIES**

A

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(Medical)

By

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ABSTRACT

This study was carried out in NRCS, CBTS during March to September 2008 with the objective to evaluate the commercially available ELISA based HIV detecting test kits. A total of 30 HIV positive serum samples (27 obtained from the study population and 3 provided by NRCS, CBTS) and 30 HIV negative serum samples from a total of 21,716 units of donated blood samples were used to evaluate 3 different HIV ELISA tests. Enzygnost Anti HIV1/2 Test kit with a sensitivity and specificity of 100% and 97.4% respectively was taken as a standard baseline test for evaluation. RecombiLISA was found to have 93.33% sensitivity and 100% specificity with PPV of 100% and NPV of 93.75%. The sensitivity, specificity, PPV and NPV of EliscanTM HIV^{Advance} was 100% was. The sensitivity of DETECT-HIVTM (v.2) was 96.7%, specificity was 100% with PPV of 100% and NPV of 96.8%. From the evaluation process EliscanTM HIV^{Advance} was found to be equally sensitive and specific as Enzygnost while two other assays were less sensitive. The evaluation of commercially available test kits before introduction into the screening systems should be carried out mandatorily to minimize any possible risks associated with transfusion transmissible infections.

Key words: Evaluation, Commercial, Test Kits, HIV, ELISA, Sensitivity, Specificity, PPV, NPV.

TABLE OF CONTENTS

Title Page	i
Recommendation	ii
Certificate of Approval	iii
Board of Examiners	iv
Acknowledgement	v
Abstract	vi
Table of Contents	vii
List of Abbreviations	x
List of Tables	xi
List of Figures	xii
List of Photographs	xiii
List of Appendices	xiv
CHAPTER I: INTRODUCTION	1
CHAPTER II: OBJECTIVES	5
2.1 General Objective	5
2.2 Specific Objectives	5
CHAPTER III: LITERATURE REVIEW	6
3.1 Human Immunodeficiency Virus	6
3.1.1 Classification	8
3.1.2 History	8
3.1.3 Transmission	9
3.1.4 Structure and Genome	11

3.1.5	Tropism	12
3.1.6	Genetic Variability	14
3.1.7	The Clinical Course of Infection	16
3.2	Laboratory Diagnosis of HIV	18
3.2.1	HIV Test	18
3.2.1.1	Screening Tests	20
3.2.1.2	Supplemental/Confirmatory tests	21
3.2.1.3	Direct Detection of HIV infections	23
3.3	Treatment	25
3.4	Evaluation of Commercial Test Kits	26
3.4.1	Background Information	26
3.4.2	HIV Testing Strategies	27
3.4.2.1	Strategy I	29
3.4.2.2	Strategy II	30
3.4.2.3	Strategy III	31
3.4.2.4	Uncertain Diagnosis: Indeterminate results	31
3.4.2.5	General remarks about testing strategies I-II-III	32
3.4.3	Follow up after diagnosis	32
3.4.4	Quality Assurance	33
3.4.5	Safety	34
3.4.6	Assay Selection	34
3.4.7	Analysis of the results of the assays under evaluation	36
3.4.7.1	Sensitivity	36
3.4.7.2	Specificity	36
3.4.7.3	Positive Predictive Value	37
3.4.7.4	Negative Predictive Value	37
CHAPTER IV: MATERIAL AND METHODS		38
4.1	Materials	38
4.1.1	Equipments	38

4.1.2	Test kits and Reagents	39
4.1.3	Glassware and others	40
4.2	Methodology	41
4.2.1	Study design	40
4.2.2	Study population	42
4.2.3	Sample size	42
4.2.4	Collection of Blood sample	43
4.2.5	Sample processing	43
4.2.6	Recording of Test Results	44
4.2.6	Statistical Analysis	44
CHAPTER V: RESULTS		45
5.1	Background information obtained prior to evaluation	45
5.2	Evaluation of RecombiLISA HIV 1+2 Ab Test	46
5.3	Evaluation of Eliscan™ HIV ^{Advance} Test Kit	46
5.4	Evaluation of DETECT-HIV™ (v.2) Test Kit	47
5.5	Sensitivity, Specificity and e Predictive values of the kits under evaluation	47
CHAPTER VI: DISCUSSION AND CONCLUSION		48
6.1	Discussion	48
6.2	Conclusion	51
CHAPTER VII: SUMMARY AND RECOMMENDATION		52
7.1	Summary	52
7.2	Recommendation	53
REFERENCES		54
LIST OF APPENDICES		

LIST OF ABBREVIATIONS

AIDS:	Acquired Immunodeficiency Syndrome
ANC:	Ante-Natal Care
CBTS:	Central Blood Transfusion Service
CDC:	Center for Disease Control and Prevention
EIA:	Enzyme Immuno Assay
ELISA:	Enzyme Linked Immuno Sorbent Assay
FDA:	Food and Drug Administration
HAART:	Highly Active Anti-Retroviral Therapy
HIV-1:	Human Immunodeficiency Virus type 1
HIV-2:	Human Immunodeficiency Virus type 2
IB:	Immunoblot
ICTV:	International Committee on Taxonomy of Viruses
IDU:	Injecting Drug Users
IFA:	Immunofluorescence Assay
LAV:	Lymph-adenopathy Associated Virus
LIA	Line Immunoassay
NAT	Nucleic acid amplification technologies
NCASC:	National Center for HIV/AIDS and STD Control
NPV:	Negative Predictive Value
NRCS:	Nepal Red Cross Society
PCR:	Polymerase Chain Reaction
PPV:	Positive Predictive Value
SIV:	Simian Immunodeficiency Virus
STD:	Sexually Transmitted Disease
UNAIDS:	Joint United Nations Programme on HIV/AIDS
WB:	Western Blot
WHO:	World Health Organization

LIST OF TABLES

- Table 3.1: Comparison of HIV species
- Table 3.2: UNAIDS and WHO recommendations for HIV testing Strategies according to the test objectives and prevalence of infection
- Table 3.3: Sensitivity, Specificity and Predictive Values of the HIV Serological Tests
- Table 5.1: Seroprevalance of HIV
- Table 5.2: HIV Status as determined by RecombiLISA HIV 1+2 Test kit.
- Table 5.3: HIV Status as determined by EliscanTM HIV^{Advance} Test Kit
- Table 5.4: HIV Status as determined by DETECT-HIVTM Test Kit
- Table 5.5: Sensitivities, Specificities and Predictive Values of the kits under evaluation

LIST OF FIGURES

- Figure 3.1 Structure of HIV
- Figure 3.2 Schematic representation of the UNAIDS and WHO HIV testing
Strategies
- Figure 4.1 Flow Chart showing blood screening procedure followed by the
evaluation

LIST OF PHOTOGRAPHS

- Photograph 1: Photograph showing result of Anti HIV-1 and 2 antibodies Test by Enzygnost Anti HIV1/2 Test
- Photograph 2: Photograph showing result of Anti HIV-1 and 2 antibodies Test by RecombiLISA HIV 1+2 Ab Test
- Photograph 3: Photograph showing result of Anti HIV-1 and 2 antibodies Test by EliscanTM HIV^{Advance} Test
- Photograph 4: Photograph showing result of Anti HIV-1 and 2 antibodies Test by DETECT-HIVTM (v.2) Test

LIST OF APPENDICES

- Appendix I: Blood Donors Record form (Questionnaire)
Appendix II: Literature of the Test kits
Appendix III: Calculation of Specificity, Sensitivity and Predictive Values.